CLAIMS

1. (Original) A high throughput method for screening lubricating oil compositions, under program control, comprising:

(a) providing a plurality of different lubricating oil composition samples comprising (i) a major amount of at least one base oil of lubricating viscosity and (ii) a minor amount of at least one lubricating oil additive, each sample being in a respective one of a plurality of test receptacles;

(b) measuring the oxidation stability of each sample to provide oxidation stability data for each sample; and,

(c) outputting the results of step (b).

2. (Original) The method of claim 1, wherein the base oil is a natural or synthetic oil.

3. (Original) The method of claim 1, wherein the lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

4. (Original) The method of claim 1, wherein the step of measuring the oxidation stability of each sample comprises exposing the sample to oxygen at a predetermined temperature for a predetermined time period and determining the amount of oxygen consumed by the sample.

5. (Previously Presented) The method of claim 1, wherein the step of measuring the oxidation stability of each sample comprises exposing the sample to a predetermined amount of oxygen at a predetermined temperature for a predetermined time period and determining the amount of time required for the sample to consume the predetermined amount of oxygen.

6. (Original) The method of claim 1, wherein the step of measuring the oxidation stability of each sample comprises subjecting the sample to oxidation reaction conditions in the presence of a substrate and determining the amount of deposit formed on the substrate after a predetermined period of reaction time.

7. (Original) The method of claim 1, wherein the step of measuring the oxidation stability of each sample comprises using infrared spectroscopy.

8. (Original) The method of claim 7, wherein the infrared spectroscopy is Fourier-transform infrared spectroscopy (FTIR).

9. (Original) The method of claim 1, wherein the step of measuring the oxidation stability of each sample is determined by differential scanning calorimetry.

10. (Original) The method of claim 1, wherein in step (c) the results of step (b) for each sample are transmitted to a computer, wherein the computer compares the results with a predetermined value delimiting a failure or passing of the results, and the computer identifies failed samples to preclude further testing of the failed samples.

11. (Original) The method of claim 1, wherein the step of outputting comprises storing the results of step (b) on a data carrier.

12. (Original) The method of claim 1, further comprising the step of using the results of step (b) as a basis for obtaining a result of further calculations.

13. (Original) The method of claim 11, further comprising the step of transmitting the results of step (b) to a data carrier at a remote location.

14. (Original) The method of claim 12, further comprising the step of transmitting the results of further calculations to a remote location.

15. (Original) A system for screening lubricating oil composition samples, under program control, comprising:

a) a plurality of test receptacles, each containing a different lubricating oil composition sample comprising (i) a major amount of at least one base oil of lubricating viscosity and (ii) a minor amount of at least one lubricating oil additive;

b) a computer controller for selecting individual samples for testing;

c) receptacle moving means responsive to instructions from the computer controller for individually moving the selected samples to a testing station for measuring oxidation stability of the selected samples;

d) means for measuring the oxidation stability of the selected samples to obtain oxidation stability data and for transferring the oxidation stability data to the computer controller.

16. (Original) The system of claim 15, wherein the receptacle moving means comprises a movable carriage.

17. (Original) The system of claim 15, wherein the receptacle moving means comprises a robotic assembly having a movable arm for grasping and moving a selected individual receptacle.

18. (Original) The system of claim 15, wherein the receptacle moving means comprises means for agitating the test receptacles.

19. (Original) The system of claim 15 wherein the means for measuring oxidation stability comprises means for measuring the consumption of oxygen of the selected samples.

20. (Original) The system of claim 15 wherein the means for measuring oxygen stability comprises means for measuring deposit formation on a transparent glass substrate resulting from oxidation of the selected samples.

21. (Previously Presented) The system of claim 20 wherein the means for measuring deposit formation includes a light source and a photocell aligned with the light source.

22. (Original) The system of claim 15 wherein each test receptacle has a bar code affixed to an outer surface thereof.

23. (Original) The system of claim 22 further comprising a bar code reader.